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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,847	02/06/2002	Densen Cao	5061.12 P	8519

7590

08/26/2004

Parsons, Behle & Latimer
201 South Main Street, Suite 1800
P.O. Box 45898
Salt Lake City, UT 84145-0898

EXAMINER

LEWIS, RALPH A

ART UNIT

PAPER NUMBER

3732

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/071,847	Applicant(s) CAO, DENSEN	
	Examiner Ralph A. Lewis	Art Unit 3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Rejections based on Prior Art

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 16 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Kovac et al (US 6,200,134).

Kovac et al disclose in Figure 4 a heat sink 64, semiconductor chips 60, focusing lens 70 and light reflective device 67.

In response to the present rejection applicant argues that the Kovac light guide 67 is not a light reflective device as the term is used in applicant's claims. Applicant's attention is directed to Friedman et al (5,290,169) for an explanation as to how light guides work. As illustrated in Figure 2, light received within a light guide reflects from side to side as it is conveyed through the guide. The reflection of light is particularly present where the light guide has a bend. The Kovac light guide 67 reasonably meets the light reflective device limitation as it reflects light. Additionally, it is noted that even if somehow the "light reflective device" were interpreted as a mirror, then there are

numerous prior teachings showing the interchangeability of mirror arrangements with optic fiber guides.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kovac et al (US 6,200,134) in view of Wurster et al (US 4,281,366) and Forehand et al (US 6,089,740).

Kovac et al disclose in Figure 4 a heat sink 64, semiconductor chips 60, focusing lens 70 and light reflective device 67, but fails to disclose the claimed first light reflective device. The use of parabolic reflectors around light sources to reflect light coming at an angle from the light source forward is old and well known to anyone familiar with a common flashlight. Such parabolic reflectors have commonly been used dental lights for reflecting the light forward to a lens and light reflector/conductor as shown by Wurster (parabolic reflector 1, lens 9, second light reflector 4) and Forehand et al (parabolic reflector 101, lens 14, second light reflector 106). To have provided Kovac et al with a parabolic reflector (i.e. "first light reflective device") to reflecting the light forward to a lens 70 and light reflector/conductor 67 as is common in the art would have been obvious to one of ordinary skill in the art.

Applicant argues with respect to the present rejection, that a parabolic reflector would not have been functional with the Kovac device due to the large size of the focusing lens 70. The examiner disagrees, a conventional prior art parabolic reflector would gather any incidental light that is going off to the side and reflect it back to the focusing lens, thereby improving the efficiency of the device. Parabolic reflectors are old and well known as cited in the applied secondary teachings.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kovac et al (US 6,200,134) in view of Wurster et al (US 4,281,366) and Forehand et al (US 6,089,740) as applied above and in further view of Mills (WO 99/16136).

Kovac et al while further disclosing the claimed pistol grip, air space, fan 42 and presumably housing air vent (in order for the fan to work), fails to disclose the claimed secondary heat sink and thermo electric cooler. Mills, however, for a similar dental curing light discloses in Figure 5 that it is desirable to connect a primary heat sink 48 on which the Leds 43 are mounted to an elongated secondary heat sink 45, a thermoelectric cooler 50 and a fan 49 for circulating air past the thermoelectric cooler. To have enhanced the cooling system of Kovac et al by providing for an elongated secondary heat sink attached to the primary heat sink and the use of a thermoelectric cooler as taught by Mills would have been obvious to one of ordinary skill in the art in order to improve the cooling of the Kovac et al device.

Action Made Final


THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication should be directed to **Ralph Lewis** at telephone number **(703) 308-0770**. Fax (703) 872-9306. The examiner works a compressed work schedule and is unavailable every other Friday. The examiner's supervisor, Kevin Shaver, can be reached at (703) 308-2582.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R.Lewis
December 13, 2003



Ralph A. Lewis
Primary Examiner
AU3732